

On Farm Trial

4.C1. Results of Technologies Assessed

OFT 1

Crop/ enterprise	Farming situation	Proble m definiti on	Titl e of OFT	No. of trial s	Technolog y Assessed	Paramete rs of assessme nt	Data on the paramet er	Results of assessmen t	Feedback from the farmer	Any refineme nt needed	Justificati on for refinemen t
1	2	3	4	5	6	7	8	9	10	11	12
Mulber ry	Irrigat ed	The yield of cocoon is less due to low quality of mulberry leaves		6	Bio fertilizers ,Gypsum and Micronutrie nt as foliar spray	Length of Inter nodes, Individu al leave weight	10-15cm 3.5-4.25 grams	5600kg of leaves/a cre	In the assessm ent plots the length was short because of the busy growth. size of individual leaves were big and the weight of leave were also optimum.	Applicati on of fertilizers may be refined based on soil types	

Contd..

Technology Assessed	Source of Technology	Production/cycle (Tender leaves)	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm,	Net Return (Profit) in Rs. / unit/cycle	BC Ratio

			nuts/palm/year)		
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Based on Central silk Board (CSB) recommendation	11.5	t/ha	25000.00	1:1.67
Technology option 2	TNAU	12.25	t/ha	30000.00	1:1.60
Technology option 3	TNAU and CSB	14.00	t/ha	36350.00	1:2.01

4.C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

- 1 Title of Technology Assessed
Application of Bio fertilizers for improved mulberry leaves production
- 2 Problem Definition
- 3 Low quality mulberry leaves production in black soil area because of the irrational fertilizer application by the mulberry growers.
- 4 Details of technologies selected for assessment
Technology Option 1:
Farmers Practice: Addition of DAP as basal and urea on top dressing.
Technology Option 2:
Application of FYM @ 20 tones/ha, 300N, 120P & 120K kg/ha and micronutrient spray of 1% Ferrous sulphate and 0.5% Zinc Sulphate in the deficient areas
Technology Option 3:
 - Application FYM @ 10.0tones/ha+ 3tones/ ha and 300N, 120P & 120K kg/ha in 5 splits(Farmers contribution)
 - Application of Bio fertilizers including sulphur mobilizer- Thiobacillus
 - Application of gypsum as single dose @ 1250. kg/ha.
 - Micronutrient spray @15 lit/ha.(Farmers contribution)
- 5 Source of technology
Tamil Nadu Agricultural University, Coimbatore
- 6 Production system and thematic area
Irrigated condition with perennial Nature. Integrated Nutrient management to improve the quality of feeding leaves
- 7 Performance of the Technology with performance indicators;
The micronutrient foliar application improved the weight individual leaves which reflects in yield of cocoon
Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques –Not done at this moment
- 8 Final recommendation for micro level situation

2 Foliar sprays of micronutrients may be done after each pruning with 14 days intervals.

9 Constraints identified and feedback for research

The exact time and level of micronutrients application may be found out for different soil types and farming system.

10 Process of farmers participation and their reactions

The farmers initially hesitated to adopt this technology since it was advocated to apply on the feeding leaves. After seeing the performance of the demo farmers' crop growth and development and also the yield increase of cocoon, now the farmers very well accepting this technology.

OFT 2

Results of Technologies Assessed

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Bhendi	Bhendi is cultivated under irrigated condition during all the seasons viz., Kharif, rabi and during summer seasons to some extent.	Lower productivity and poor market preference due to Yellow Vein Mosaic infection in Bhendi.	Assessing the bhendi variety/hybrid of Yellow Vein Mosaic disease resistance for higher yield and returns in Dindigul district	10	Arka Anamika with ICM CoBh H1 with ICM	% of YMV incidence Yield No. of harvest Market Preference					Stage: Vegetative stage Trail is in progress (Since, YMV is severely affected during summer season especially in the month of March – May, the trails was started during second week of March 2011. At present the crop is vegetative stage. Therefore the performance of YMV resistant will be realized after 2 months only)

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Usage of local unnamed varieties		The crop is in vegetative phase and the trial is in progress			
Arka Anamica with ICM	IIHR				
COBhH 1 with ICM practices	TNAU				

Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

- 1 Title of Technology Assessed :
Assessing the bhendi variety/hybrid of Yellow Vein Mosaic disease resistance for higher yield and returns in Dindigul district
- 2 Problem Definition
Lower productivity and poor market preference due to Yellow Vein Mosaic infection in Bhendi.
- 3 Details of technologies selected for assessment

Technology option 1:	Usage of local unnamed varieties
Technology option 2:	Arka Anamika with ICM
Technology option 2:	COBhH 1 with ICM practices
- 4 Source of technology

IIHR & TNAU
- 5 Production system and thematic area
Bhendi is cultivated under irrigated condition during all the seasons viz., Kharif, rabi and during summer seasons to some extent. The thematic area is suitable hybrid for YMV resistant in Bhendi
- 6 Performance of the Technology with performance indicators
Trail is in progress
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques
8. Final recommendation for micro level situation
Trail is in progress
- 9 Constraints identified and feedback for research
Trail is in progress. Constraints will be identified and feedback for research will be depicted later.
- 10 Process of farmers participation and their reaction
The farmers were selected in a participatory mode in collaboration with an NGO namely, World Vision India. Inputs have been demonstrated in the farmers field. The reaction of the farmers with regards to technology will be perused and intimated after the completion of the trail.

OFT 3

Results of the technologies assessed

Crop/enterprise	Farming system	Problem definition	Title of OFT	No. of trials	Technology assessed	Parameters Of Assessment	Data on parameter	Results of assessment	Feedback From the farmer	Any refinement needed	Justification of refinement
Dairy cows	Semi intensive	Infertility due to improper Management and lack of balance diet	Management of Infertility in crossbred cows	70	Deworming and supplementation of mineral mixture and estrus Synchronization with PGF2 and fixed time artificial insemination	Interval between heat Milk yield		The T3 Perform well and the animals treated with T3 came to regular heat	The farmers Realized the importance of MN in regulating the animals to have heat in regular interval	--	--

Technology Assessed	Source of Technology	Production	Please give the Unit (Kg/ha) t/ha lit/animal nuts/palm, Nuts/palm/year	Net return (Profit) In Rs/unit	BC ratio
T1(Farmers Practice) Feeding cows with Green grass,Paddy straw and Concentrated feed	--	3.0	lt/animal	-	-
T2(RP) Feeding cows with Green grass,Ppaddy straw and Concentrated feed and MN mixture	TANUVAS	6.0-6.5	lt/animal	120/day	1:1.6
T3(AP) Feeding cows with Green grass,Ppaddy straw and Concentrated feed and MN mixture and PGF2	TANUVAS	7.0 to 7.6	lt/animal	144/day	1:1.5

Details of each On farm Trial for assessment to be furnished in the following format separately as per the following details

1. Title of the Technology Assessed

Management of Infertility in crossbred cows

2. Problem definition

Improper management and non provision of MN mixture causes Infertility

3. Details of technologies selected for assessment

T1 (Farmers Practice)

Feeding cows with Green grass, Paddy straw and Concentrated feed

T2 (RP)

Feeding cows with Green grass, Paddy straw and Concentrated feed and MN mixture

T3 (AP)

Feeding cows with Green grass, Paddy straw and Concentrated feed and MN mixture and PGF2

4. Source of Technology

TANUVAS

5. Production system and thematic area

Semi-intensive: Infertility Management

6. Performance of the technology with Performance indicators

Treatment	Increase in Milk yield	Expression of first heat after calving	Conception rate
T1	-	120-150 days	30%
T2	0.5lt	60days	55%
T3	0.6lt	50days	60%

7. Feedback, matrix scoring of various technology parameters done through farmers participation/other scoring techniques

After implementing the technology each and every farmer was provided with a questionnaire to evaluate the technology.

8. Final recommendation for micro level situation

Feeding cows with Green grass,Paddy straw and Concentrated feed (2kg/day/animal)along with MN mixture(30gm/day/animal) and PGF2 Enhances fertility in dairy cows.

9.Constraints identified and feed back for research

Even though the supplementation of the animals with mineral mixture and essential nutrition the unavailability of the veterinary service to the remote village will also resulted in improper reproductive performance of the dairy animals due to untimely insemination etc..

10.Process of farmers participation and their reaction

The farmers coordinated well with staff of KVK in all stages of the programme implementation and followed the guidelines given to them and adopted the technologies without any flaw or deviation.

The farmers are now well aware of the importance's of mineral mixture and Vitamin A in post partum anestrus and reacted to KVK staff that they will adopt the technology in future and will be in touch with KVK for other technologies

OFT 4**4. D1. Results of Technologies Refined****Results of On Farm Trial**

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology refined	Parameters of refined	Data on the parameter	Results of refinement	Feedback from the farmer	Details of refinement done
Mandarin Orange	The oranges are grown under rainfed condition as intercrop in coffee plantations.	Drying up of twigs and branches from tip downward year after year. During the course of 2-3 years the entire secondary branches dried and yield declined and ultimate death of the trees. The probable causes are, Improper nutrient management, Nematodes and Wither tip / anthracnose	Measures to control drying up of branches and decline in Mandarin Orange	10	Controlling the drying up of twigs through INM, Nematode control and wither tip/anthracnose	Yield Recovery Percent	5.23 t/ha 30 % (Trail is in progress)	Considerable improvement in growth, nematode control and wither tip disease were noticed.	Application of FYM enriched with Trichorich N + Neem cake and INM practices realized producing new fleshes. Yield increase and net return realized was also good.	Micronutrient application through Soil and Foliar spray was done. 75% recommend er of N&P+Azosp irillum+ Phosphobac teria. Spray of CoC 2g/lit

Technology Refined	Source of Technology / Justification for modification of assessed	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13		14	15	16	17
Technology Option 1: :As the branches dry downwards they cut down the dried branches and apply fytolan paste to the cut wounds. Sometimes they used to spray copper oxy chloride to manage the problem. Some of the farmers applying complex fertilizers (17:17:17) @ 250 g /tree/year.		3.56	t/ha	28090	1:2.2
Technology Option 2 : FYM – 30kg and NPK @ 600:200:400 g/tree /year. Application of VAM @ 1kg/tree /year. Micronutrient spray – 600 g each of ZnSo ₄ , MgSo ₄ , MnSo ₄ and FeSo ₄ dissolved in 450 lit of water. Micronutrient spray has to be imposed once in three months at the time of new flush production. Plant protection: Application of carbofuron @ 150 g/tree to contain the nematode and spray 0.3 % copper oxy chloride to reduce the twig blight.	Source: TNAU	4.85	t/ha	42608	1:3.0
Technology Option 3 To maintain the tree vigour – proper nutrient management- 1. Biofertilizers – Azospirillum, Phosphobacteria and AM @ 50 g each /tree. 2. N & P @ 75 % of the recommended dose ie., 450: 150 g/tree and K @ 400 g per tree. 3.Micronutrient application – soil application of 50 g each of ZnSo ₄ , MnSo ₄ and FeSo ₄ per tree and foliar application of 600 g each of ZnSo ₄ , MnSo ₄ , MgSo ₄ and FeSo ₄ once in three months at the	Source: IIHR The integrated nutrient application will ensure the vigour for a longer period and the trees will be less susceptible to pests and diseases. Application of biocontrol agents namely	5.23	t/ha	49040	1:3.3

<p>time of new flush production. 4. Application of agricultural lime @ 4 kg /tree during Jan-Feb once in 2 years</p>	<p><i>Trichoderma harzianum</i> and <i>Paecilomyces lilacinus</i> will have effective check over root nematode and burrowing nematode.</p> <p>Application of agricultural lime @ 4 kg / tree will maintain the proper pH level and it will ensure the balanced availability of macro and micro nutrients and its uptake by the plants.</p>				
--	--	--	--	--	--

4.D.2. Details of each On Farm Trial for refinement to be furnished in the following format separately as per the proforma below

1. Title of Technology refined

Measures to control drying up of branches and decline in Mandarin Orange

2 Problem Definition

Drying up of twigs and branches from tip downward year after year. During the course of 2-3 years the entire secondary branches dried and yield declined and ultimate death of the trees. The probable causes are improper nutrient management, Nematodes and Wither tip / anthracnose

3 Details of technologies selected for refinement

Technology option 1:

As the branches dry downwards they cut down the dried branches and apply fytolan paste to the cut wounds. Sometimes they used to spray copper oxy chloride to manage the problem. Some of the farmers applying complex fertilizers (17:17:17) @ 250 g /tree/year.

Technology option 2:

FYM – 30kg and NPK @ 600:200:400 g/tree /year. Application of VAM @ 1kg/tree /year. Micronutrient spray – 600 g each of ZnSo₄, MgSo₄, MnSo₄ and FeSo₄ dissolved in 450 lit of water. Micronutrient spray has to be imposed once in three months at the time of new flush production.

Plant protection: Application of carbofuron @ 150 g/tree to contain the nematode and spray 0.3 % copper oxy chloride to reduce the twig blight.

Technology option 3:

To maintain the tree vigour – proper nutrient management- 1. Biofertilizers – Azospirillum, Phosphobacteria and AM @ 50 g each /tree. 2. N & P @ 75 % of the recommended dose ie., 450: 150 g/tree and K @ 400 g per tree. 3. Micronutrient application – soil application of 50 g each of ZnSo₄, MnSo₄ and FeSo₄ per tree and foliar application of 600 g each of ZnSo₄, MnSo₄,

MgSo₄ and FeSo₄ once in three months at the time of new flush production. 4. Application of agricultural lime @ 4 kg /tree during Jan-Feb once in 2 years

II. To contain nematodes: Application of FYM enriched with Trichorich – N (a formulation contains bio control agents namely *Trichoderma harzianum* and *Paecilomyces lilacinus*). FYM enrichment will be made by applying 2 kg of Trichorich- N + 40 kg of neem cake to one ton of FYM and it will be left for 15 days by maintaining optimum moisture. This enriched FYM will be applied at the rate of 18-20 kg / tree.

III. To control wither tip disease: Spray of copper oxy chloride @ 2g /lit

4 Source of technology

TNAU & IIHR

5 Production system and thematic area

Oranges are grown under rain fed condition as intercrop in coffee plantations. The thematic area is Integrated pest management, Nutrient management and Disease management

6. Performance of the Technology with performance indicators: A slight modification was done in the available technologies to test the tree vigour of the orange trees by adopting proper nutrient management practices, strategies to contain the nematode population and preventive measures to control wither tip disease. The performance of the technologies was assessed by the following indicators.

Sl.No.	Indicator	Performance/Remarks
1	Yield	Technology option 1 =3.56 Technology option 2 =4.85 Technology option 3 =5.23
2	Recovery percentage	Technology option 1 =7% Technology option 2 = 21% Technology option 3 =30%

7. Feedback, matrix scoring of various technology parameters done through farmer’s participation / other scoring techniques
 Matrix scoring of various technology parameters (3,2,1 ranking from highest to lowest)

S.No.	Parameters	T0	T1	T2
1	Yield	1	2	3
2	Recovery Percent	1	2	3
3	BC ratio	1	2	3

8 Final recommendation for micro level situation

- Integrated nutrient management practices it can be economical and increased use of efficiency.
- Micronutrient application through foliar spray and soil application methods were realized effectively for the nutrient uptake of the trees.
- Application of FYM enriched with Trichorich N + Neem cake application can produce more number of new fleshes and the yield was also good.

Constraints identified and feedback for research

There was no constrain faced in implementation of the trail.

Process of farmers participation and their reaction

The fullest involvement of farmers in testing the technologies at their field was given by them. They learnt the INM practices for getting better yield. They followed all the technological aspects and extended their co-operation in maintenance of yield data records. Farmers realized the importance of FYM enrichment of Trcichorich N + Neem cake and Copper Oxy chloride for control of drying up of twigs and branches. Finally the farmers realized that integrated crop management practices should followed to improve the tree vigour, yield and maintenance of the mandarin orange orchards.

